



UNITED STATES PATENT AND TRADEMARK OFFICE

20
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/532,357	03/21/2000	Essam Sourour	8194-368	7332
20792	7590	02/17/2004	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC			PIZARRO, RICARDO M	
PO BOX 37428			ART UNIT	PAPER NUMBER
RALEIGH, NC 27627			2661	
DATE MAILED: 02/17/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/532,357	SOUROUR, ESSAM
	Examiner	Art Unit
	Ricardo M. Pizarro	2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 21 March 2000.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,17,21,25,26,29,33 and 36 is/are rejected.
- 7) Claim(s) 2-16, 18-20, 22-24, 27-28, 30-32,34-35 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Drawings

The informal drawings filed in this application are acceptable for examination purposes. When the application is allowed, applicant will be required to submit new formal drawings.

Claim Objections

1. Claims 2-16, 18-20, 23-24, 30-32, 34-35 objected to because of the following informalities and it is suggested to applicant:

In claim 2 lines 2, 3 7 and 8 replace “an” with –said, in line . In lines 4,6 and 9 replace “a’ with -said-.

In claim 3 lines 1,2 and 3 replace “a” with –said, in line 4 replace “the” with –a-.

In claim 6 line 2 replace “a’ with –said-.

In claim 7 lines 5 and 12 replace “a’ with –said-.

In claim 8 line 4 replace “a” with -said-.

In claim 9 lines 4 and 12 replace “a” with –said-

In claim 10 line 2 replace “a” with –said-, in line 4 replace “the” with –a-, in line 6 insert “integrated” after –scaling-.

In claim 11 line 2 replace “a’ with –said-. insert ‘integrated after –scaling-.

In claim 12 insert “integrated” after –scaling-.

In claim 13 insert “integrated” after –scaling-.

In claim 14 replace “a’ with –the-.

In claim 18 lines 2 and 4 replace "a" with -said-, in line 3 replace "an" with -said-, in line 7 replace the second occurrence of "the" with -a-.

In claim 19 line 2 replace "a" with -said-, in line 3 insert "a" before -second-.

In claim 20 line 2 replace "a" with _the-.

In claim 23 line 3 replace "the" with -a-, in line 4 replace "the" with -an-.

In claim 30 lines 5 and 6 replace "an" with -said-, in line 6 replace "a" with -said-, in line 11 replace "the" with -a-.

In claim 31 line 3 replace the second occurrence of "the" with -a-.

In claim 32 replace the first occurrence of "the" with -a-.

In claim 34 line 7 replace the second occurrence of "the" with -a-.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 15 recites the limitation "the first group of codes" in lines 1-2 and the limitation "the second group of codes" in lines 2-3. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Wang. US patent No. 6,501,788 (Wang et al)discloses an apparatus and method for interference cancellation comprising a method of transmitting (col 4 lines 10-11) generating an interference-compensated information symbol (col 4 line 10) from a source information system based on knowledge of an information symbol and a first code (code from first spreading sequence, col 4 line 13) used to generate a first coded signal (signal from first sequence) and concurrently transmitting the first coded signal and a second coded signal (signal from second sequence) representing the interference-compensated information symbol encoded according to a second code (code from second spreading sequence, col 4 line 28) as in claim 1.

6. Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Bottomley. U.S. patent No. 6,515,980 (Bottomley) discloses Methods and apparatus for interference cancellation using interference orthogonalization techniques comprising in a wireless communication system in which at least one base station (base stations 26 in Fig. 1, col 10 line

10) is operative to transmit on respective channels defined by respective spreading codes selected from a set of quasi-orthogonal spreading codes (using quasi-orthogonal codes , col 10 line 13), said set including a first group and a second group of orthogonal codes (first and second groups in Fig. 5, col 12 line 50, col 12 line 55) comprising generating an interference-compensated information symbol from a source information symbol based on knowledge of an information symbol and a code (first spreading sequence, col 12 line 54)from the first group used to generate a first coded signal and concurrently transmitting the first coded signal and a second coded signal representing the interference-compensated information symbol encoded according to a code (second spreading sequence) from the second group, as in claim 17.

7. Claims 21, 25-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang. US patent No. 6,501,788 (Wang et al)discloses an apparatus and method for interference cancellation comprising at least one transmitter (base stations, col 14 line 57) that generates an interference-compensated information symbol (col 4 line 10) from a source information symbol based on knowledge of information symbols and a first code (code from first spreading sequence, col 4 line 13) used to generate a first coded signal and that concurrently transmits the first coded signal and a second signal representing the interference-compensated information symbol encoded according to a second code (code from second spreading sequence, col 4 line 28), as in claim 21; at least one wireless base station (col 14 line 57), as in claim 25;

8. Claim 29 is rejected under 35 U.S.C. 102(e) as being anticipated by Wang. US patent No. 6,501,788 (Wang et al)discloses an apparatus and method for interference cancellation comprising a transmitting station (base stations, col 14 line 57) comprising means for generating an interference-compensated information symbol (col 4 line 10) from a source

Art Unit: 2661

information symbol based on knowledge of an information symbol and a first code (code from first spreading sequence, col 4 line 13) used to generate a first coded signal and means for concurrently transmitting the first coded signal and a second signal representing transmitting the first coded signal and a second signal representing the interference-compensated information symbols encoded according to a second code (code from second spreading sequence, col 4 line 28), as in claim 29.

9. Claim 33 , 36 is rejected under 35 U.S.C. 102(e) as being anticipated by Wang. US patent No. 6,501,788 (Wang et al)discloses an apparatus and method for interference cancellation comprising a wireless communication base station (base station, col 14 line 57) comprising an interference-compensating transmitter operative to transmit on respective channels defined by respective spreading codes selected from a quasi-orthogonal spreading codes, said set including a first group of orthogonal spreading coded (code from first spreading sequence, col 4 line 13)and a second group of orthogonal spreading codes (code from second spreading sequence, col 4 line 28), said transmitter operative to generate an interference-compensated information symbol (col 4 line 10 from a source information symbol based on knowledge of an information symbols and a code from the first group of codes used to generate a first coded signal (signal from first sequence) and to concurrently transmit a second coded signal (signal from second sequence) representing the interference-compensated symbol encoded according to a code from the second group of codes, as in claim 33; wherein said transmitter concurrently transmits the first and second coded signals, as in claim 36

Allowable Subject Matter

10. Claims 2-14, 16, 18-20, 22-24, 27-28, 30-32, 34-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim. Please also notice objection to claims under 37 CFR 1.75
11. Claim 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this office action and to include all of the limitations of the base claim and any intervening claims. Please also notice objection to claims under 37 CFR 1.75

Conclusion

12. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

(for formal communications intended for entry, for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ricardo Pizarro** whose telephone number is (703) 305-1121. The

Art Unit: 2661

examiner can normally be reached on Monday-Friday from 9:00 AM to 5:30 PM. The fax number for this Group is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Douglas Olms**, can be reached on (703) 305-4703.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

February 5, 2004

Ricardo M. Pizarro

Douglas W. Olms
DOUGLAS OLMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600